

CLAIMS

1. A drilling machine for drilling panels made of wood, plastics material, aluminium or the like, comprising conveyor means for conveying a panel to be processed along a horizontal axis x, by providing intermittent displacements, so as to arrange said panel at a tool bearing rotary turret, characterized in that said drilling machine further comprises: top horizontal guiding means vertically movable along an axis y; ^{13?} abutment means at said horizontal guiding means and designed for translating along an axis z to fit their position to a thickness of the panel being processed; holding means applied to vertical uprights and defining a fixed supporting wall for supporting said panel being processed; and bottom guiding means adapted to translate along said axis z, independently from said horizontal guiding means, and being adjustable depending on said thickness of said panel which thickness can change with respect to other regions of said panel.

2. A drilling machine, according to Claim 1, characterized in that said drilling machine comprises at least a tool bearing head, ³⁰ coupled to a supporting ³¹ element movable along the horizontal axis x and the

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vertical axis y and that said tool bearing head is designed for following a displacement of a panel along said horizontal axis x and for performing processing operations on said panel during the displacement of said panel.

3. A drilling machine, according to Claim 1, characterized in that said drilling machine further comprises conveyor means for conveying said panel along said horizontal axis x; said conveyor means including a conveyor belt, comprising a plurality of conveyor belt links which can slide on guiding means, including a frame, and that said conveyor belt is driven by a toothed belt supported by said frame.

4. A drilling machine, according to Claim 3, characterized in that said toothed belt defines at least a top flat trajectory, guided by top guiding rollers, and being engaged by two end pulleys, and that, at an intermediate region of said top flat trajectory is provided a bottom toothed pulley arranged between a pair of smooth surface pulleys, said smooth surface pulleys cooperating with said toothed pulley to cause said toothed belt to define a downward directed toothed belt loop.

5. A drilling machine, according to Claim 1,

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characterized in that said turret is mounted on a supporting element which can be vertically driven along vertical guides defined on an upright, and that said supporting element is controlled by a ball recirculating screw system, causing said turret to be vertically driven, said supporting element being supported by an automatic weight compensating system, to allow said turret to be vertically driven with a high driving speed.

6. A drilling machine, according to Claim 1, characterized in that said turret comprises a turret head thereon are assembled a plurality of operating heads including either individual or multiple mandrels and designed for performing a plurality of processing operations on said panel, said turret being rotatably controlled by a brushless motor and an epicycloidal reducing unit, said operating heads being fixed to a rotary drum through ball recirculating shoes connected to said drum, and a guiding wall being provided which is fixed to each said operating head and axially slides on said guide shoes.

7. A drilling machine, according to Claim 1, characterized in that said panel is held in a vertical position and being supported by said conveyor means

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not shown

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comprising said accurately fed conveyor belt, and being guided, at a top thereof, by horizontal top guiding means including two plurality of guiding rollers, respectively having a ^{vertical} vertical axis and a horizontal axis, which can be vertically driven along

said axis y, and being controlled by brushless motors.

8. A drilling machine, according to Claim 1, characterized in that said drilling machine comprises a first driving motor driving, with a perfectly parallel relationship, a vertical displacement of said rollers through opposite shafts, in turn driven by a motor reducing assembly and coupled, at two opposite end portions thereof, to two gears each meshing with a respective vertically extending rack, coupled to a respective column included in a bearing framework of said drilling machine.

9. A drilling machine, according to Claim 7, characterized in that said vertical axis rollers are abutment rollers and are supported by a section member which can be driven along an axis z by kinematic driving assemblies, to fit a position of said abutment rollers to a thickness of said panel being processed.

10. A drilling machine, according to Claim 1, characterized in that said drilling machine

comprises, at a bottom portion thereof, in addition to said conveyor belt, a plurality of holding wheels or rollers applied to a plurality of vertically extending upright forming a fixed supporting wall for supporting said panel being processed.

11. A drilling machine, according to Claim 1, characterized in that said drilling machine comprises a bottom horizontal cross member supporting guiding rollers, and which can be adjusted depending on a thickness of said panel being processed which thickness can change, with respect to other regions of said panel.

12. A drilling machine, according to Claim 1, characterized in that said drilling machine comprises an assembly including two horizontal arms supporting a section members bearing said rollers, and which is supported by two rodless cylinders, held in said columns and pneumatically fed to compensate for a weight of said assembly, in order to allow said assembly to be vertically driven with a high speed.